

OBSERVATIONS ON PLASMIDIUM OF MYXOMYCETES.

Jahn (Ber. Deutsch. Bot. Gesell, 1911) reports studies on the Myxomycetes, such as *Stemonitis*, *Trichia*, and *Physarum*. (1) Plasmodia may be observed in formation by drying out the ciliated spore stage, thus forcing them to become encysted. On wetting, these divide. The process may be repeated several times. (2) Certain of the ameboid cells initiate the plasmodium formation, and may devour other surrounding amebæ. (3) Nuclear divisions ensue, the rate of division among them remaining quite uniform, as the number of nuclei is normally even. (4) Ameboid copulation and nuclear union were seen. (5) The plasmodia nuclei possess the $2x$ number of chromosomes as against the x number in the ameba nuclei. (6) The reduction division is the one immediately preceding the spore formation.

ANIMAL TUMORS AND "CROWN GALL" IN PLANTS.

Dr. Erwin F. Smith in his presidential address before the Botanical Society of America at Washington (also in Circular 85, U. S. Bur. Plant Ind., and in Science Feb. 2, 1912) emphasizes certain most interesting and suggestive resemblances between "crown-gall" in plants and malignant animal tumors. He succeeds in showing that the similarities are not merely superficial and incidental ones. He finds that they agree (1) in being non-granulomatous; (2) in that cells of the organism become a disturbing force, multiplying without reference to the physiological needs of the region; (3) in the general structure of the primary tumor; (4) in the production from these of secondary tumors; (5) in the actual connection by strands of invading tumor cells of the primary tumor with its derivative secondary tumors; (6) in that the form of structure of the secondary tumor tends to be that of the organ in which the primary tumor is found rather than of the organ in which the secondary tumor itself occurs; (7) complete recovery if all the tumor tissue is removed, otherwise growth may continue.

Dr. Smith finds that the crown-gall is accompanied, and caused, by a micro-organism (*Bacterium tumefaciens*) and that it may readily be transferred to healthy plants by inoculation. He also found evidences that this organism produces in fish ulcerous growths similar to animal sarcoma.